

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 2 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method comprising:

identifying a failure within a first failed feature in a computer aided design (CAD)
assembly comprising a plurality of features; and
automatically providing a first set of treatments for the failure within the first failed
feature from which to select~~[[,]]~~ a treatment applicable to the failure, where:
said first set of treatments is based at least in part on the failure within the first failed
feature~~[[,]]~~;
said failure is resulting from modifications of one or more features of the CAD
assembly~~[[,]]~~; and
the first failed feature is excluded from the CAD assembly.

2. (Currently Amended) The method of claim 1 further comprising:

identifying failures within a plurality of additional failed features among a plurality of
features comprising the CAD assembly; and
automatically providing a plurality of respective sets of treatments for each failure within
the plurality of additional failed features from which to select~~[[,]]~~ a treatment for a

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 3 of 17

Attorney's Docket No.: 15786-014001 / P019-130055

corresponding failure, each of said plurality of respective sets of treatments based at least in part on a corresponding failure.

3. (Currently Amended) The method of claim 1 wherein the identifying is based at least in part on at least one of an error message ~~and~~ or a warning message generated during execution of the CAD assembly.

4. (Currently Amended) The method of claim 1 further comprising:

generating a diagnosis object for each failed feature of the CAD assembly, each diagnosis object comprising information to facilitate at least one of identifying ~~and~~ or illustrating at least one failure in a respective failed feature[[]];

storing each diagnosis object in ~~persistent~~ memory;

retrieving a diagnosis object from the ~~persistent~~ memory corresponding to the first failed feature based on an indication of the first failed feature; and

providing information to facilitate at least one of identifying ~~and~~ or illustrating the failure in the first failed feature based on the diagnosis object corresponding to the first failed feature.

5. (Currently Amended) The method of claim 4 wherein the information comprises at least one of a CAD assembly identifier, a failure text description, a feature identifier, an instance transform, a feature geometry, a feature coordinate set, a failure result type, ~~and~~ or a set of feature dependencies.

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 4 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

6. (Original) The method of claim 1 further comprising:

receiving a selection indicating the first failed feature.

7. (Currently Amended) The method of claim 6 wherein receiving the selection comprises at least one of

receiving a pointer command from a browser that lists the first failed feature;

receiving a toolbar command followed by a pointer indication in a list including the

first failed feature;and or

receiving a menu command followed by a pointer indication in a list including the

first failed feature.

8. (Currently Amended) The method of claim 6 further comprising:

providing an indication of at least one primary failed feature if the first failed feature is a secondary failed feature;and

providing an option to select from the at least one primary failed feature if the first failed feature is a secondary failed feature~~[[.]]~~; and

if a primary failed feature is selected, then providing a set of treatments applicable to the primary failed feature.

9. (Currently Amended) The method of claim 1 further comprising at least one of:

providing a detailed textual description of the failure within the first failed feature;

designating the first failed feature in a graphical representation of the CAD assembly;

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 5 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

stepping through execution of the CAD assembly; ~~and~~ or

listing at least one feature upon which the first failed feature depends.

10. (Currently Amended) The method of claim 9 wherein providing the detailed textual description comprises at least one of:

providing at least one of an error message ~~and~~ or a warning message corresponding to the failure within the first failed feature, said at least one of an error message ~~and~~ or a warning message being generated during execution of the CAD assembly;

providing an extended message from a data structure of extended messages based on the failure within the first failed feature; ~~and~~ or

providing a calculated response based on a deviation of the failure within the first failed feature from acceptable values.

11. (Currently Amended) The method of claim 9 wherein designating the first failed feature comprises at least one of:

implementing a command to toggle highlighting of a representation of the first failed feature;

sonaring in on the representation; ~~and~~ or

zooming in on the representation.

12. (Currently Amended) The method of claim 11 further comprising:

generating at least one of a set of at least one edge of the first failed feature, a set

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 6 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

of at least one surface of the first failed feature, ~~and~~ or a graphical error icon for use as the representation of the first failed feature, wherein the representation indicates where the first failed feature would have been generated in the CAD assembly.

13. (Currently Amended) The method of claim 9 wherein stepping through execution of the CAD assembly comprises at least one of:

executing only a next feature in the CAD assembly after receiving a next feature indication from a user;

sequentially executing the CAD assembly at a reduced rate;

pausing execution after each feature on which the first failed feature depends is executed;

~~and~~ or

designating only a most recently executed feature in the CAD assembly as the CAD assembly is executed.

14. (Currently Amended) The method of claim 1 further comprising:

receiving a selection indicating one treatment of the ~~first~~ set of treatments; and

automatically initiating the selected one treatment.

15. (Currently Amended) The method of claim 14 wherein the ~~first~~ set of treatments comprises at least one of an edit treatment, a delete treatment, a suppress treatment, a reorder treatment, ~~and~~ or a targeted edit treatment, and wherein automatically initiating the selected one treatment comprises at least one of:

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 7 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

opening the user interface used to create the CAD assembly;
deleting the first failed feature from the CAD assembly;
suppressing the first failed feature in the CAD assembly;
moving the first failed feature to a different place in an execution sequence of the CAD
assembly; ~~and or~~
opening a reduced function user interface to edit a parameter of the first failed feature
predicted to be responsible for the failure within the first failed feature.

16. (Currently Amended) The method of 15 wherein opening the user interface comprises at least
one of:

zooming in on coordinates of the first failed feature in the CAD assembly;
designating the first failed feature in the CAD assembly; ~~and or~~
rolling back execution of the CAD assembly to just before execution of the first failed
feature.

17. (Currently Amended) The method of claim 15 wherein moving the first failed feature
comprises at least one of:

receiving a user indication of where the first failed feature should be ~~move~~removed; ~~and or~~
receiving a selection indicating a suggested location for the first failed feature.

18. (Previously Presented) The method of claim 15 wherein opening the reduced function user
interface comprises:

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 8 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

opening a parameter editing field; and

suggesting at least one of a value and a value range for the parameter.

19. (Currently Amended) The method of claim 1 wherein automatically providing the ~~first~~-set of treatments comprises:

accessing a plurality of available treatments, each of said available treatments including a list of failures to which the respective treatment applies;

comparing the failure within the first failed feature to the list of failures for each of said available treatments; and

~~adding treatments to~~ generating the first set of treatments based on the comparing.

20. (Currently Amended) An apparatus comprising:

first logic to identify a failure within a first failed feature in a computer aided design (CAD) assembly comprising a plurality of features; and

second logic to automatically provide a ~~first~~ set of treatments for the failure within the first failed feature from which to select a treatment applicable to the failure, where:

said ~~first~~ set of treatments is based at least in part on the failure within the first failed feature[.];

said failure is resulting from modifications of one or more features of the CAD assembly[.]; and

the first failed feature is excluded from the CAD assembly.

Applicant : James M. Clauss
Serial No. : 09/258,075
Filed : January 27, 2004
Page : 9 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

21. (Currently Amended) The apparatus of claim 20 further comprising:

third logic to receive a selection indicating the first failed feature; and

fourth logic to provide information to facilitate at least one of identifying ~~and~~ or illustrating the failure within the first failed feature.

22. (Currently Amended) The apparatus of claim 20 further comprising:

third logic to receive a selection indicating one treatment of the ~~first~~ set of treatments; and

fourth logic to automatically initiate the selected treatment.

23. (Currently Amended) A machine readable storage medium having stored thereon machine executable instructions, execution of said instructions to implement a method comprising:

identifying a failure within a first failed feature in a computer aided design (CAD) assembly comprising a plurality of features; and

automatically providing a ~~first~~ set of treatments for the failure within the first failed feature from which to select a treatment applicable to the failure, where:

said ~~first~~ set of treatments is based at least in part on the failure within the first failed feature[.];

said failure is resulting from modifications of one or more features of the CAD assembly[.]; and

the first failed feature is excluded from CAD assembly.

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 10 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

24. (Currently Amended) The machine readable storage medium of claim 23 having stored thereon machine executable instructions, execution of said instructions to implement the method further comprising:

receiving a selection indicating the first failed feature; and
providing information to facilitate at least one of identifying or ~~and~~ illustrating the failure within the first failed feature.

25. (Currently Amended) The machine readable storage medium of claim 23 having stored thereon machine executable instructions, execution of said instructions to implement the method further comprising:

receiving a selection indicating one treatment of the ~~first~~ set of treatments; and
automatically initiating the selected treatment.

26. (New) The method of claim 1, further comprising

receiving a selection of a treatment from the set of treatments;
executing the treatment to resolve the failure within the first failed feature; and
including the first failed feature with the failure resolved in the CAD assembly.

27. (New) The apparatus of claim 20, further comprising

third logic to receive a selection of a treatment from the set of treatments;
fourth logic to execute the treatment to resolve the failure within the first failed feature;

and

Applicant : James M. Clauss
Serial No. : 09/238,075
Filed : January 27, 2004
Page : 11 of 17

Attorney's Docket No.: 15786-014001 / P019 -130055

fifth logic to include the first failed feature with the failure resolved in the CAD assembly.

28. (New) The machine readable storage medium of claim 23 having stored thereon machine executable instructions, execution of said instructions to implement the method further comprising:

receiving a selection of a treatment from the set of treatments;

executing the treatment to resolve the failure within the first failed feature; and

including the first failed feature with the failure resolved in the CAD assembly.